



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/544,189

08/01/2005

Jean-Luc Crebouw

0501-1140

8138

466

7590

08/19/2009

YOUNG & THOMPSON

209 Madison Street

Suite 500

ALEXANDRIA, VA 22314

EXAMINER

JACKSON, JAKIEDA R

ART UNIT

PAPER NUMBER

2626

MAIL DATE

DELIVERY MODE

08/19/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/544,189	Applicant(s) CREBOUW, JEAN-LUC	
	Examiner JAKIEDA R. JACKSON	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-42 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 22-24, 26-27 and 34-36 is/are rejected.
- 7) ☐ Claim(s) 25, 28-33 and 37-42 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed August 1, 2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Objections

2. Claims 22 and 35 are objected to because of the following informalities:

- the word "Fourrier", should be --Fourier--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 22-24, and 35** are rejected under 35 U.S.C. 102(e) as being anticipated by Heikkinen (PGPUB 2002/0184009).

Regarding **claims 22 and 35**, Heikkinen discloses a method and device, hereinafter referenced as a method for the differentiated digital processing of a sound signal, constituted in the interval of a frame by the sum of sines of fixed amplitude and of which the frequency is modulated linearly as a function of time, this sum being modulated temporally by an envelope, the noise of said sound signal being added to said signal, prior to said sum,

characterized in that it comprises:

a stage of analysis making it possible to determine parameters representing said sound signal (parametric; paragraph 0004) by

a calculation of the envelope of the signal (envelope; paragraph 0059),

a calculation of the period of the fundamental of the voice signal (pitch) and of its variation (variations in pitch; paragraphs 0013 and 0065),

an application to the temporal signal of the inverse variation of the pitch (inverse; paragraph 0050),

a Fast Fourier Transformation (FFT) of the pre-processed signal (Fourier transform; paragraphs 0004-0008),

an extraction of the signal frequential components (frequencies) and their amplitudes (amplitude) from the result of the Fast Fourier Transformation (paragraphs 0004-0008),

a calculation of the pitch and its validation in the frequential domain (frequency domain; paragraphs 0004-0008).

Regarding **claim 23**, Heikkinen discloses a method characterized in that it furthermore comprises a stage of synthesis (synthesized) of said representative parameters making it possible to reconstitute said sound signal (constructs a speech signal; paragraphs 0004-0008).

Regarding **claim 24**, Heikkinen discloses a method characterized in that it furthermore comprises a stage of coding (encoding) and of decoding (decoding) of said representative parameters of said sound signal (speech signal; paragraph 0040).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 26 and 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Heikkinen (PGPUB 2002/0184009) in view of Alles (USPN 4,201,105).

Regarding **claim 26**, Heikkinen discloses a method of determining parameters of a sound signal but does not specifically teach a method characterized in that it furthermore comprises a stage of generation of special effects associated with the synthesis.

Alles discloses a method characterized in that it furthermore comprises a stage of generation of special effects (special effects) associated with the synthesis (synthesis; column 6, lines 17-44), to improve sound synthesizing.

Therefore, it would have been obvious to one of ordinary skill of the art at the time the invention was made to modify Heikkinen's method as described above, to control amplitude and frequency parameters that produce respective constituent tones of sound segments (abstract), as taught by Alles.

Regarding **claim 34**, it is interpreted and rejected for similar reasons as set forth in the combination of claims 22-26.

7. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over Heikkinen (PGPUB 2002/0184009) in view of Thyssen et al. (USPN 6,240,386), hereinafter referenced as Thyssen.

Regarding **claim 27**, Heikkinen discloses a method characterized in that said stage of synthesis comprises:

a summing of the sines (sinusoidal model) of which the amplitude of the frequential components (frequency) varies as a function of the envelope of the signal and of which the frequencies vary linearly (paragraphs 0004-0011),

a calculation of the phases (phases) as a function of the frequencies value (frequency) and of the values of phases and frequencies belonging to the preceding frame (paragraphs 0004-0011),

an application of the envelope (envelope; paragraph 0059), but does not specifically teach a superimposition of the noise.

Thyssen discloses a method of superimposing noise (column 44, lines 35-43), to reproduce the actual speech signal.

Therefore, it would have been obvious to one of ordinary skill of the art at the time the invention was made to modify Heikkinen's method as described above, for higher quality decoding and reproduction (abstract), as taught by Thyssen.

8. **Claim 36** is rejected under 35 U.S.C. 103(a) as being unpatentable over Heikkinen (PGPUB 2002/0184009) in view of Alles and in further view of Thyssen et al. (USPN 6,240,386), hereinafter referenced as Thyssen.

Regarding **claim 36**, Heikkinen in view of Alles disclose a device characterized in that said stage of synthesis comprises:

means of a summing of the sines (Heikkinen; sinusoidal model) of which the amplitude of the frequential components (frequency) varies as a function of the envelope of the signal and of which the frequencies vary linearly (paragraphs 0004-0011),

means of a calculation of the phases (phases) as a function of the frequencies value (frequency) and of the values of phases and frequencies belonging to the preceding frame (paragraphs 0004-0011),

means of application of the envelope (envelope; paragraph 0059), but does not specifically teach means of superimposition of the noise.

Thyssen discloses means of superimposing noise (column 44, lines 35-43), to reproduce the actual speech signal.

Therefore, it would have been obvious to one of ordinary skill of the art at the time the invention was made to modify Heikkinen in view of Alles's method as described above, for higher quality decoding and reproduction (abstract), as taught by Thyssen.

Allowable Subject Matter

9. Claims 25, 28-33 and 37-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAKIEDA R. JACKSON whose telephone number is (571)272-7619. The examiner can normally be reached on Monday-Friday from 5:30am-2:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2626

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jakieda R Jackson/
Examiner, Art Unit 2626
August 16, 2009